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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,972	03/31/2004	Saimani Sundar	KUM-110US	5904

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RATNERPRESTIA
P O BOX 980
VALLEY FORGE, PA 19482-0980

EXAMINER

FIGUEROA, JOHN J

ART UNIT	PAPER NUMBER
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1712

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/813,972	Applicant(s) SUNDAR ET AL.	
	Examiner John J. Figueroa	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 12-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/19/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-11, in the reply to the restriction requirement filed November 27, 2006, is hereby acknowledged.
2. Claims 12-15 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent Number 6,239,209 B1 to Yang et al., hereinafter 'Yang'.

Yang discloses forming polyurethane polymers, particularly air curable water-borne urethane-acrylic hybrid polymers suitable for coatings, wherein the resultant polyurethane/acrylic copolymer is a dispersion resistant to abrasions chemicals and stains. (Abstract; col. 1, lines 5-9; col. 3, lines 27-37) The polyurethane-acrylic copolymer hybrid interpenetrating polymer network is formed by blending a

polyurethane prepolymer having salt forming groups, air curable ethylenic unsaturation and terminal isocyanate groups (or both terminal isocyanate groups and terminal vinyl groups), with one or more vinyl monomers inert to isocyanate functionality; dispersing the prepolymer/vinyl monomer blend into water; chain extending the terminal isocyanate groups of the prepolymer with one or more active hydrogen containing compound; and reacting the vinyl monomers by free radical polymerization. (Col. 3, lines 38-67)

Yang discloses among suitable organic polyisocyanates for forming the polyurethane prepolymer include 1 p-phenylene diisocyanate, 2,6- and 2,4-tolylene diisocyanate, xylene diisocyanate, 4-chloro-1,3-phenylene diisocyanate, 4,4'-biphenylene diisocyanate, 4,4'-methylene diphenylisocyanate, 1,5-naphthylene diisocyanate, 1,5-tetrahydronaphthylene diisocyanate, polymethylene polyphenylisocyanates, and mixtures thereof.

Yang further discloses that the air curable ethylenic unsaturation can be provided by an ester polyol made by reaction of an aromatic or aliphatic polyol containing at least two hydroxyl groups per molecule with a fatty acid wherein a portion of the fatty acid is unsaturated. Suitable polyols include ethylene glycol, ethylene glycol, propylene glycol, 1,3 propane diol, 1,3 butylene glycol, 1,4 butane diol, Bisphenol A trimethylol propane, glycerin, neopentyl glycol, and cyclohexane dimethanol, and mixtures thereof. (Col. 5, lines 9-30)

Yang discloses that the polyurethane prepolymer may be partially (interpenetrating polymer network system) or completely, (copolymer system) reacted

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with vinyl monomer(s) that contain both vinyl and active hydrogen functionality such as hydroxy ethyl acrylate, hydroxethyl methacrylate, hydroxy propyl acrylate, hydroxy propyl methacrylate resulting in a vinyl terminated polyurethane prepolymer. (Col. 5, lines 48-55) Vinyl monomers employed, that are inert to isocyanate functionality include acrylic acid, methacrylic acid, ethyl acrylate, butyl acrylate, methyl methacrylate, ethyl methacrylate, butyl methacrylate, acrylamide, methylacrylamide, styrene and vinyl toluene. (Col. 5, lines 56-64)

Yang further discloses that the prepolymer/vinyl monomer blend is subsequently dispersed into water and suitable active hydrogen containing compounds added to react with the prepolymer terminal isocyanate groups for chain extension, wherein the active hydrogen containing compounds include aliphatic, aromatic, cycloaliphatic and heterocyclic amino alcohols, polyamines, hydrazine, substituted hydrazines, hydrazides, amides, water and mixtures thereof. (Col. 5, line 64 to col. 6, line 10) The polyurethane prepolymer/vinyl monomer(s) blend is then subjected to free radical polymerization, preferably utilizing the addition of an azo compound, and wherein the composition can be crosslinked by air oxidation. (Col. 6, lines 11-25))

Thus, the claims are anticipated by Yang.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Mon-Thurs & alt. Fri 8:00-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJF/RAG



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